PARTNERSHIP IN TOMORROW

Coding Accuracy Support System/Multiline Accuracy Support System

Jim Wilson began the meeting by welcoming attendees and reviewing the agenda for the day. The topics Jim discussed are listed below followed by the details of the presentation. Attendees can send comments regarding the 2000–2001 Coding Accuracy Support System (CASS) requirements in writing to the CASS Department for receipt by close of business on Thursday, November 3, 1999.

1999–2000 CYCLE REVIEW

Jim Wilson provided an overview of the 1999–2000 CASS cycle, which went well overall. The annual meeting was held on October 6–8, the Stage I file was released December 15, 1998, and the Stage II file was released February 15, 1999. Due to industry concerns, we accommodated end users of CASS-certified software by allowing them to continue using the 1999–2000 software through July 31, 2000. The Multiline Accuracy Support System (MASS) schedule was extended through September 30, 1999.

The following aspects of the CASS grading/matching policy were clarified: Line of Travel (LOT) Product, delivery point barcode (DPBC) grading, and highrise burn-through. Regardless of any discrepancy between LOT Product and ZIP+4 Product, LOT carrier route assignments must be based upon ZIP+4 data. In grading DPBC matches where the highrise default record shares the same ZIP+4 code as a highrise range, the output must contain the DPBC based on the input secondary value. If multiple "S" records exist for the same street and carrier route, a Highrise record for that same street and carrier route can be selected when it resolves a match to a better depth of code.

STAGE FILE ACCURACY

Concerns were raised regarding the accuracy of the Stage files, particularly Stage I files. To improve stage file quality, the CASS Department will develop a process that allows identification of changes occurring in City State Product. The process will identify the changed records and delete them from the pool of addresses used to build Stage I and Stage II file questions. In addition, CASS will host an online chat room on the Rapid Information Bulletin Board System (RIBBS) server for software developers to share CASS information. The CASS Department will notify CASS/MASS customers when the chat room is up and running.

SUPPORT TOOLS

CASS will make the City State browser available to software developers via the Web. This browser will allow you to view the last 12 months of City State Product releases and review Alias and City State Detail records. In addition, CASS will implement a developer analysis version of the USPS Address Matching System for software developers to use in comparatively analyzing CASS testing results.

DISCUSSION ITEMS

CASS/Presort Accuracy Validation & Evaluation (PAVE) Combined Certification — An effort is currently underway to explore the possibility of electronic acceptance and to combine certification processes for products such as CASS and PAVE. This effort is still in the planning/feasibility stage and was shared with the group to keep developers abreast of the current thinking.

Delivery Point Coding Utilities — Many of the delivery point coding utilities available cannot generate delivery point codes based on secondary address information. This is a problem because improper calculation of delivery point codes leads to inconsistent delivery of mail destined for highrises. Software developers are encouraged to inform their customers of this issue and notify them that effective July 31, 2000, the Postal Service will not accept mail coded with incorrect secondary information.

Early Warning System Project — The CASS Department launched an effort to identify errors stemming from the currency of the ZIP+4 database. CASS analysis demonstrated that new addresses added to the Address Management System (AMS) database were miscoded when matched against the ZIP+4 database in use per the *Domestic Mail Manual* (DMM) policy. Today, ZIP+4 Product is extracted from AMS approximately 30 days before its "official" release date. Addresses that are activated after extract of the monthly ZIP+4 Product release may not be accessible to address-matching products for 135 days, which creates a high potential for miscoding.

DMM A950, Database Use Policy Review — The existing policy surrounding processing dates of address lists is very confusing. The CASS Department will propose modifications to the DMM that will require monthly updates and change the valid use dates on a PS Form 3553 so that the dates are based on the product release date.

Mandatory LOT Certification Proposal — Based on feedback received from delivery units, CASS will propose a change to the DMM language that will require LOT certification to qualify for the associated rate.

CASS TIMELINE FOR 2000–2001 CYCLE

Jim reviewed the CASS timeline for the 2000–2001 cycle, which is as follows:

- June 8, 1999   CASS pre-meeting held
- August 1, 1999   Preliminary agenda items distributed to software vendors
- August 24, 1999   Full CASS/MASS meeting held
- October 1, 1999   CASS minutes distributed
- October 15, 1999   Stage I file release
- December 15, 1999   Stage II rile release
- March 15, 2000   MASS test decks available
- April 15, 2000   1999–2000 Testing ends
- July 31, 2000   Mandatory compliance date

GRADING ISSUES

Accuracy Requirement — Accuracy requirements for CASS and MASS certification will be raised to 98 percent overall and by category.

Perfect Address Testing — CASS will include perfect address testing in the 2000–2001 cycle. *Perfect addresses* are defined as 100 percent accurate content and format, fully spelled out or abbreviated. Only valid perfect addresses will be included in the testing, and a score of 100 percent correct coding will be required. Perfect addresses will be pure and will not contain aliases, alternates, or highrise default alternate addresses. In addition, CASS will only include perfect addresses in which no other address record on the database affect or influence the outcome of the match.

Double Jeopardy — *Double jeopardy* refers to the doubling of the error count when the user's answers to a question differ from those of the manufacturer. Double jeopardy will be implemented in the 2000–2001 cycle and will apply to both CASS and MASS customers.

Progressive Error Inclusion — This is a new grading policy that will include address-matching errors identified on a passing CASS certification in subsequent CASS tests. Collection of the information will begin in the 2000–2001 cycle, and inclusion in subsequent testing will begin in the 2001–2002 cycle. Progressive error inclusion (PEI) will apply to software vendors only. Errors replicated in subsequent CASS tests will replace new questions on a one-to-one basis. PEI questions will continue to be included in subsequent CASS tests until the error is corrected.

LAST LINE MATCHING LOGIC

Last Line Tiebreaking — Last line tiebreaking refers to the use of the input city name to break ties between multiple candidate match records. Address-matching software products must NOT invoke last line tiebreaking logic unless multiple candidate ZIP+4 matches with the same street data are present.

Example:

City State Product

ZIP Code	City/State Key	City Name	M/N Ind	PLL City Name
98155	Z17856	SHORELINE	Y	SEATTLE
98155	Z17429	SEATTLE	Y	SEATTLE
98177	Z17856	SHORELINE	Y	SEATTLE
98177	Z17829	SEATTLE	Y	SEATTLE

ZIP+4 Product

ZIP Code	Prim Lo	Prim High	Pre	Street	Suffix	Post	ZIP+4	City St Key
98155	19501	19599		23rd	AVE	NE	1201	Z17429 Seattle
98177	19501	19599		23rd	AVE	NW	2902	Z17856 Shoreline

Input: 19523 23RD Ave N
Shoreline WA

Result: No Match

Input: 19523 23RD Ave
Seattle WA

Result: No Match

Reason: Since post-directional values are not the same, a multiple response condition exists prior to execution of Last Line Tiebreak logic. The mailing name indicator has no impact on determining the match.

When an input ZIP Code is present, it may be used as a tiebreaker. However, there will be cases where the input ZIP Code does not help break a tie.

Example:

City State Product

ZIP Code	City/State Key	City Name	M/N Ind	PLL City Name
98155	Z17856	SHORELINE	Y	SEATTLE
98155	Z17429	SEATTLE	Y	SEATTLE

ZIP+4 Product

ZIP Code	Prim Lo	Prim High	Pre	Street	Suffix	Post	ZIP+4	City St Key
98155	18408	18498		24th	AVE	NE	3928	Z17856 Shoreline
98155	18400	18498		24th	PL	NE	4004	Z17429 Seattle

Input: 18410 24TH ST NE
                      SEATTLE WA 98155

Result: NO MATCH

Reason: The suffix is incorrect, and two candidate records with differing suffixes exist. Therefore, last line tiebreaking logic cannot be used.

Address-matching products usually evaluate data for an entire finance number when selecting a match. Matches result depending upon the degree of similarity between the house number and street data. For the 2000–2001 cycle, CASS will test for matches that occur in the input ZIP Code or the ZIP Codes associated with the input city in preference to matches within ZIP Codes that are not associated with the input city name.

ZIPMove DATA IMPLEMENTATION

ZIPMove data identifies address records that may have undergone a change in finance number and shows "old side" and "new side" address detail to assist in making a correct address match. In today's address-matching environment, ZIPMove data is not used; therefore, the address-matching product does not detect a change in finance number, which can lead to miscoding. Use of ZIPMove data will be required in the 2000–2001 CASS cycle, and testing will include questions that require the implementation of ZIPMove to produce accurate matches.

Example:

ZIPMove Data

	ZIP Code	Prim Lo	Prim High	Pre	Street	Suffix	Post	ZIP+4	City St Key	Finance Number
Old	03103	2	48		GARDEN	DR		1047	V25571	324800
New	03052	2	48		GARDEN	DR		1047	V25552	324240

The ZIPMove data indicates that the above record changed finance number. Note also that the City State key is now different on the new side.

ZIP+4 Product   PRIOR TO CHANGE

ZIP Code	Prim Lo	Prim High	Pre	Street	Suffix	Post	ZIP+4	City St Key	Finance Number
03103	2	48		GARDEN	DR		1047	V25571	324800
03103	2	48		GARDEN	ST		6415	V25571	324800

ZIP+4 Product   AFTER CHANGE

ZIP Code	Prim Lo	Prim High	Pre	Street	Suffix	Post	ZIP+4	City St Key	Finance Number
03052	2	48		GARDEN	DR		1047	V25552	324140
03103	2	48		GARDEN	ST		6415	V25571	324800

If address-matching software does not recognize that GARDEN DR moved into another finance number, the following address will miscode as follows:

Input: 26 GARDEN DR
                MANCHESTER NH 03103

Result: 26 GARDEN ST
                MANCHESTER NH 03103-6415

To certify for the CASS 2000–2001 cycle, software should logically or physically reconstruct the GARDEN DR record back into the original finance number based upon the ZIPMove data. Further, when an input address produces an exact match to the reconstructed ZIPMove data record, use the new ZIP Code information to produce the match.

Example:

ZIP+4 Product   RECONSTRUCTED DATA

ZIP Code	Prim Lo	Prim High	Pre	Street	Suffix	Post	ZIP+4	City St Key	Finance Number
03052	2	48		GARDEN	DR		1047	V25552	324140
03103	2	48		GARDEN	DR		1047	V25571	324800
03103	2	48		GARDEN	ST		6415	V25571	324800

When an exact match is made to the ZIPMove-indicated record, use ZIPMove's new ZIP Code to determine the match.

Based on the exact match to the old side of the ZIPMove data and an exact match to the new side data, the previous address example would code as follows:

Input: 26 GARDEN DR
                MANCHESTER NH 03103-1047

Result: 26 GARDEN DR
                LITCHFIELD NH 03052-1047

An exact match is defined as a match that does not require any addition, deletion, or change of street components and no change in the ZIP Code. If any of the street components change or if the ZIP Code changes on a match to a ZIPMove-indicated record, software must not reprocess the data using the ZIPMove new side data.

When matching within the new ZIP Code, only exact matches can be selected based on new side data. If a change in the street components or ZIP Code occur, the match is considered invalid. When the match to the ZIPMove old or new side is not exact, do not default to a lesser match.

ZIPMove Data

	ZIP Code	Prim Lo	Prim-High	Pre	Street	Suffix	Post	ZIP+4	City St Key	Finance Number
Old	04110	2	54		MIDDLE	RD		1308	V24820	226900
New	04021	2	54		MIDDLE	RD		1308	V24819	221845

ZIP+4 Product   RECONSTRUCTED DATA

ZIP Code	Prim Lo	Prim High	Pre	Street	Suffix	Post	ZIP+4	City St Key	Finance Number
04105	2	32		MIDDLE	RD		1835	V28218	226900
04110	2	54		MIDDLE	RD		1308	V14820	226900
04021	2	54		MIDDLE	RD		1308	V24819	221845

Based upon previous data, do not code the following address:

Input: 2 MIDDLE AVE
                  04110

Result: No Match

Since the best candidate is an inexact match to a ZIPMove-indicated record, do not choose a lesser quality match when the ZIPMove match is not allowed.

DIRECTIONAL MATCHING

The CASS Department analyzed customer address data matched using USPS software. We learned that changing a directional from one cardinal point to another (e.g., south to north or east to west) produces erroneous assignments more than 50 percent of the time. However, in cases where a non-cardinal point change occurred (e.g., north to northeast) or where the directional value was added to or deleted from the input address, the delivery point was confirmed at least 80 percent of the time. Based upon the results of the analysis, matching logic involving changes to directional values will be limited to non-cardinal changes only. Therefore, the cardinal rule surrounding directional matching is as follows:

- Address-matching software may never change the cardinal point directional for an input address to another cardinal point directional:

    Input: N MAIN ST
    ZIP+4:   S MAIN ST
    Result: No Match

- Address-matching software may add/delete a directional value to produce a match where there is only one candidate record for the street name and house number:

    Input: N MAIN ST
    ZIP+4:   MAIN ST
    Result: Match

- Address-matching software may change a directional within its cardinal range if only one candidate match record exists for the street name and house number:

Input: N MAIN ST
ZIP+4: NE MAIN ST
Result: Match

- Address-matching software may not break ties using cardinal directional logic where more than one record exists for the street name and house number *in any case*;

  Input: N MAIN ST
  ZIP+4: NE MAIN ST
          E MAIN ST
  Result: No Match – Multiple Response

During the meeting, a request was made for a table of allowable versus non-allowable changes in directional values. This table is shown below, and it supersedes any statements or examples discussed during the meeting. In columns containing a "Y," the input directional may be changed to the corresponding ZIP+4 Product directional value when the above guidelines are followed.

ZIP+4 Data:	N	NE	NW	S	SE	SW	E	W	Blank
Input:									
N		Y	Y	Y						Y
NE		Y	Y					Y		Y
NW		Y		Y					Y	Y
S					Y	Y	Y			Y
SE					Y	Y		Y		Y
SW					Y		Y		Y	Y
E			Y			Y		Y		Y
W				Y			Y		Y	Y
Blank		Y	Y	Y	Y	Y	Y	Y	Y	Y

PMB ADDRESSING

CASS will begin testing addresses containing PMB data in the 2000–2001 CASS cycle. For CASS testing purposes, address-matching software products must recognize and retain PMB address information as follows:

- When PMB information is in the Delivery Address field and a separate PMB output field is available, address-matching software must move the PMB information out of the Delivery Address field to the PMB output field.

- When PMB information is in the Delivery Address field and there is no separate output field available, address-matching software must retain the PMB information in the Delivery Address field.

CASS will expect PMB output answers to be included in both of the following locations within a Stage II test:

- End of Delivery Answer fields, and
- PMB Answer field.

The CASS requirement for dual PMB answer output is not applicable in production release. CASS will modify the Stage I and Stage II file structures to identify separately PMB answer field at 540 for a length of 12. For CASS testing purposes only, the PMB designator and PMB range-value attributes will be the same as ZIP+4 Product secondary fields.

Example: Seco-Desg =4   PMB
            Seco-Range =8   A1A1A1A1

Examples of PMB-style questions that will be asked during the 2000–2001 CASS cycle are illustrated below.

INPUT ADDRESS	OUTPUT ADDRESS
STE 1 123 MAIN ST PMB 1001	PMB 1001 123 MAIN ST STE 1
PMB 1002 123 MAIN ST	123 MAIN ST PMB 1002
123 MAIN ST PMB 1023 STE 3	123 MAIN ST STE 3 PMB 1023
123 MAIN ST # 4 PMB A3	123 MAIN ST STE 4 PMB A3

If there is nowhere to put the output PMB information, then it can stay in the address, and address-matching software must ignore it for address-matching purposes.